





Who we are Profile



Nurjana Technologies (NT) is a small company providing Systems and Software Solutions for Real Time Sensor Integration, Multi Sensor Data Fusion and Automatic Target Tracking based on a R&D approach to the System Engineering and System Design

NT was established in 2012 on the initiative of the founding partners who have Engineering/R&D skills in Information Technologies and several years of experience in the fields of Aerospace/Defence





Who we are

Facilities

NT today is a strong Engineering-Centric company grown to take advantage of the mixed skills of a and various engineering team.

NT is located in a 1,500 sq.mt building in Cagliari, Sardinia (Italy), in one of the most beautiful places in the Mediterranean sea.

- **Headquarters, Technical Premises and Lab**
Elmas (Ca) - Italy

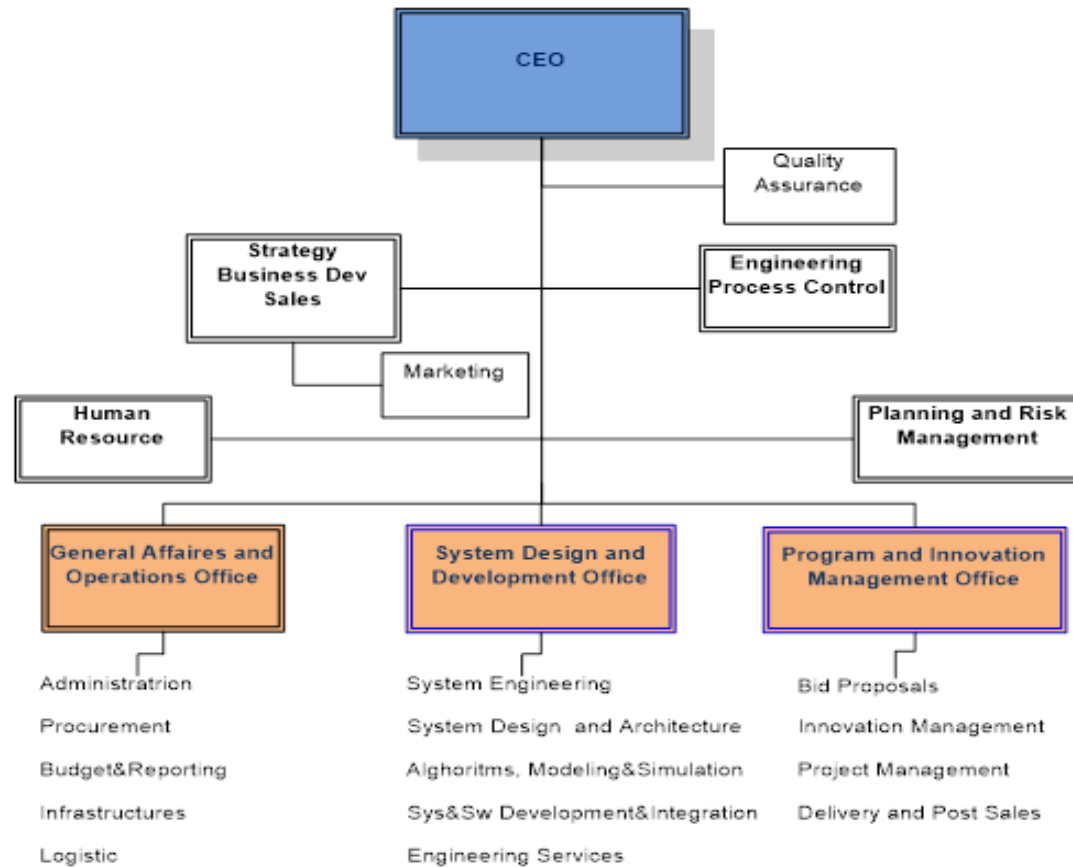




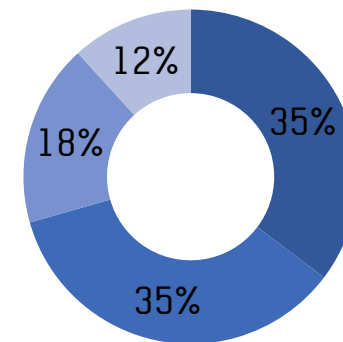
Who we are

Staff and Organization

NT is an engineering-centric company



Employees



- Software Engineers
- Electronics Engineers
- Aerospace Engineers
- Management





Engineering and R&D - Knowledge service and methodologies

- Sensor Modeling and Scenario Simulation
- Multi Sensor Data Fusion - Artificial Intelligence - Machine/Deep Learning -Image Processing
- Tracking Systems Design and Integration: Radar - Optics - Telemetry
- Systems and Software Engineering compliant with ISO 29148-2011, ISO 16085-2006, ISO 26702-2007 and Model Based System Engineering
- Software Design and Development with strong competences in Real Time systems compliant with IEEE 12207-based process for real-time systems using multi-tasking OS
- Operational Documentation compliant with military standards (e.g. MIL-STD-498)

Application fields in Defence and Aerospace

- Instrumented Test Range
- Real Time Command & Control
- Electro Optical Tracking Systems
- Automatic Target Identification and Tracking
- SST/SSA and Orbit Propagation
- Mission Data Analysis, Test & Evaluation
- Autonomous navigation of Swarm of Drones
- Remote Sensing Data Exploitation

Utility of our technology must be measured by the extent to which the system supports the intended decision process.



The sensors and techniques involved are good if the results support the process effectively.





Understanding the physics behind remote sensing technologies, such as optics, radar and telemetry, for integration into real time expert systems for decision support. In our vision, the output of a data fusion system is aimed at supporting a human decision process.

Sensor and Data Fusion Open Issues

- What algorithms or techniques are appropriate and optimal for a particular application?
- What architecture should be used (i.e., where in the processing flow should data be fused (viz. at the data, feature, or decision levels)?)
- How should individual sensor data be processed to extract the maximum amount of information?
- What accuracy can realistically be achieved by a data fusion process?
- How can the fusion process be optimized in a dynamic sense?
- How does the data collection environment (i.e., signal propagation, target characteristics, etc.) affect the processing?
- Under what conditions does multi-sensor data fusion improve system operation (under what conditions does it impede or degrade performance)?



Who we are

Institutional Partnership & Qualifications



NT has a quality management system in accordance with UNI – EN ISO 9001:2015 Standard for the activities:

«Design, Development and Integration of Hardware and Software Systems; provision of assistance and maintenance services»



NT is a member of the Italian Industries Federation for Aerospace, Defense and Security.

Our collaboration with Universities and Research Center is to address fundamental issues for development of future systems in the context of artificial intelligence, data fusion, remote sensing and simulation.



NT is a member of International Test and Evaluation Association (ITEA).

NT is a member of DASS, Sardinia Aerospace District. Together with PISQ Nurjana is developing technology for simulation, experimentation and training, and other technologies and dual-use applications for space-civil-defense.



What we do

Main Products

Multi Sensor Central Control System (MSCCS)



The Multi Sensor Central Control System (MSCCS) proposed by Nurjana Technologies is an integrated and modular Command & Control System based on the NT software suite - Mission Management Platform (MMP) - designed to provide a complete suite of applications for a wide spectrum of testing and evaluation activities in a test centre



What we do

Main Products

Nurjana Electro Optical System (NEOS)

Nurjana Electro Optical System is a complete HW and SW system for real time optical tracking in the field of high precision measurements.

NEOS configuration is fully customizable and established through an detailed analysis of accuracy of the required tracking data, physical and dynamic characteristics of the target and test environment. The real-time video tracker NT-BLEND use the Machine Learning approach. It can be trained by the user to ensure the success of the target identification and tracking.





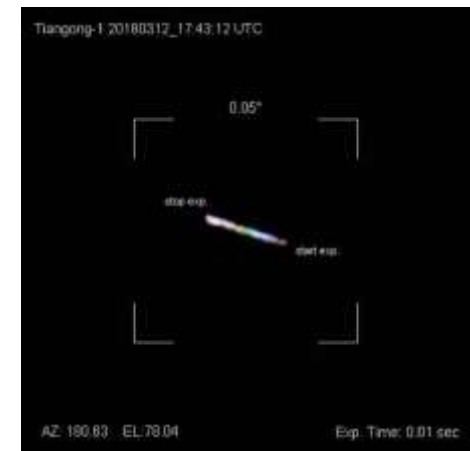
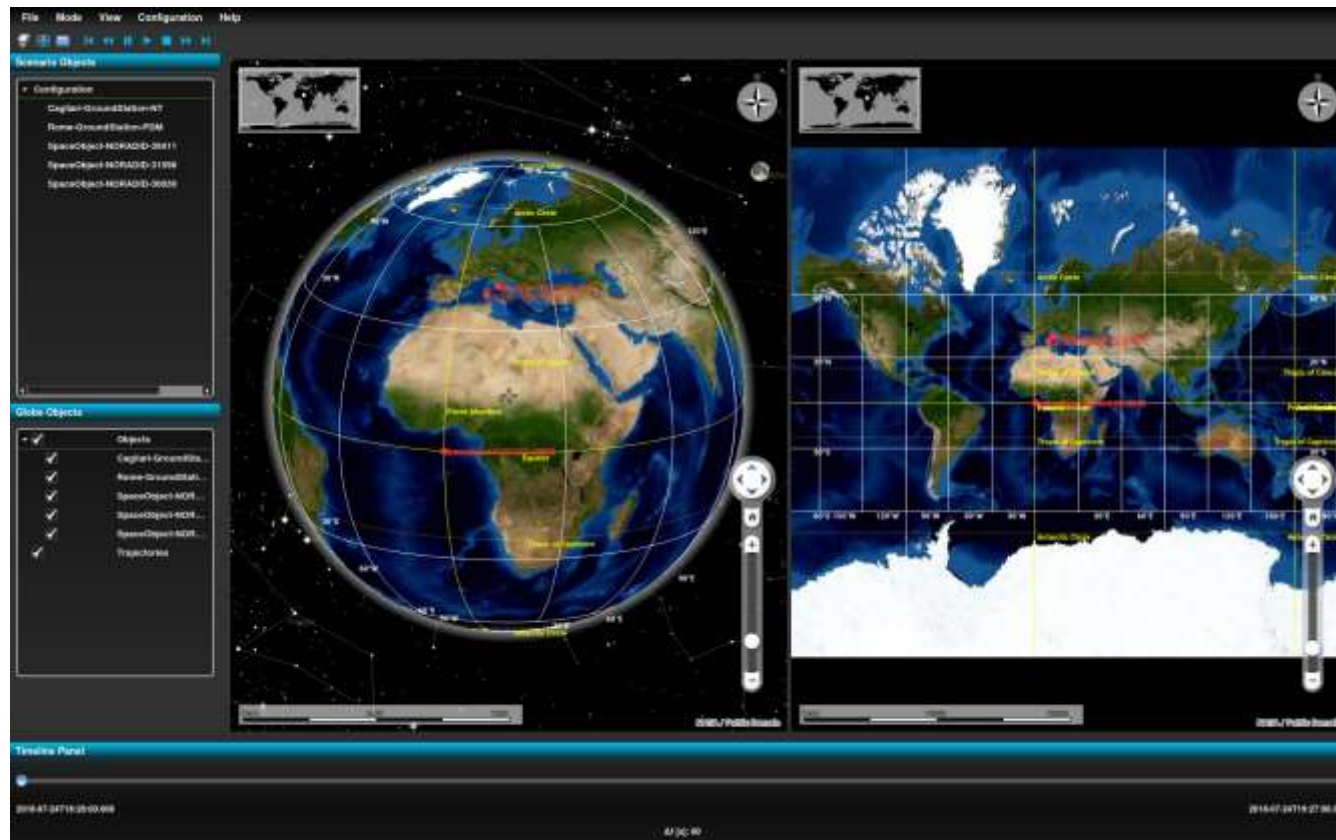
What we do

Main Products

Nurjana Suite for Space Surveillance and Tracking (NT-SST)



Nurjana Suite for Space Surveillance and Tracking is a software suite for orbit determination, accurate propagation and conjunction analysis based on multi sensor data fusion algorithms of radar and optical observations





What we do

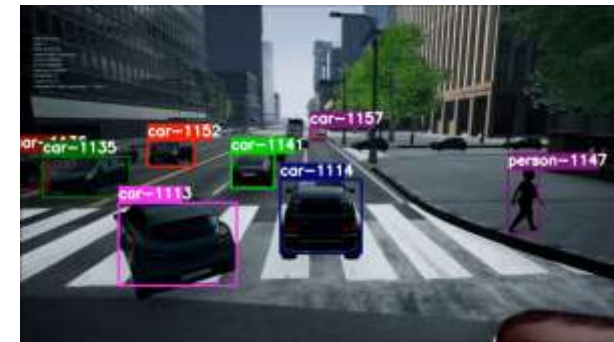
Main Products

Nurjana Artificial Intelligence for Swarm of Drones (NAIS)

Nurjana Artificial Intelligence for Swarm of Drones is a realistic Machine learning/Deep learning environment designed for the training of the algorithms developed for the Autonomous Navigation, Autonomous Object Detection and Tracking of a Swarm of Drones



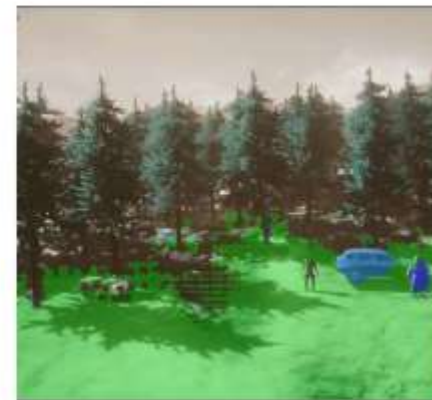
Autonomous drones:
Deep learning algorithms for on-board image processing
Testing synthetic environments simulated via Unreal Engine



Camera view



Detection and tracking for user-defined objects



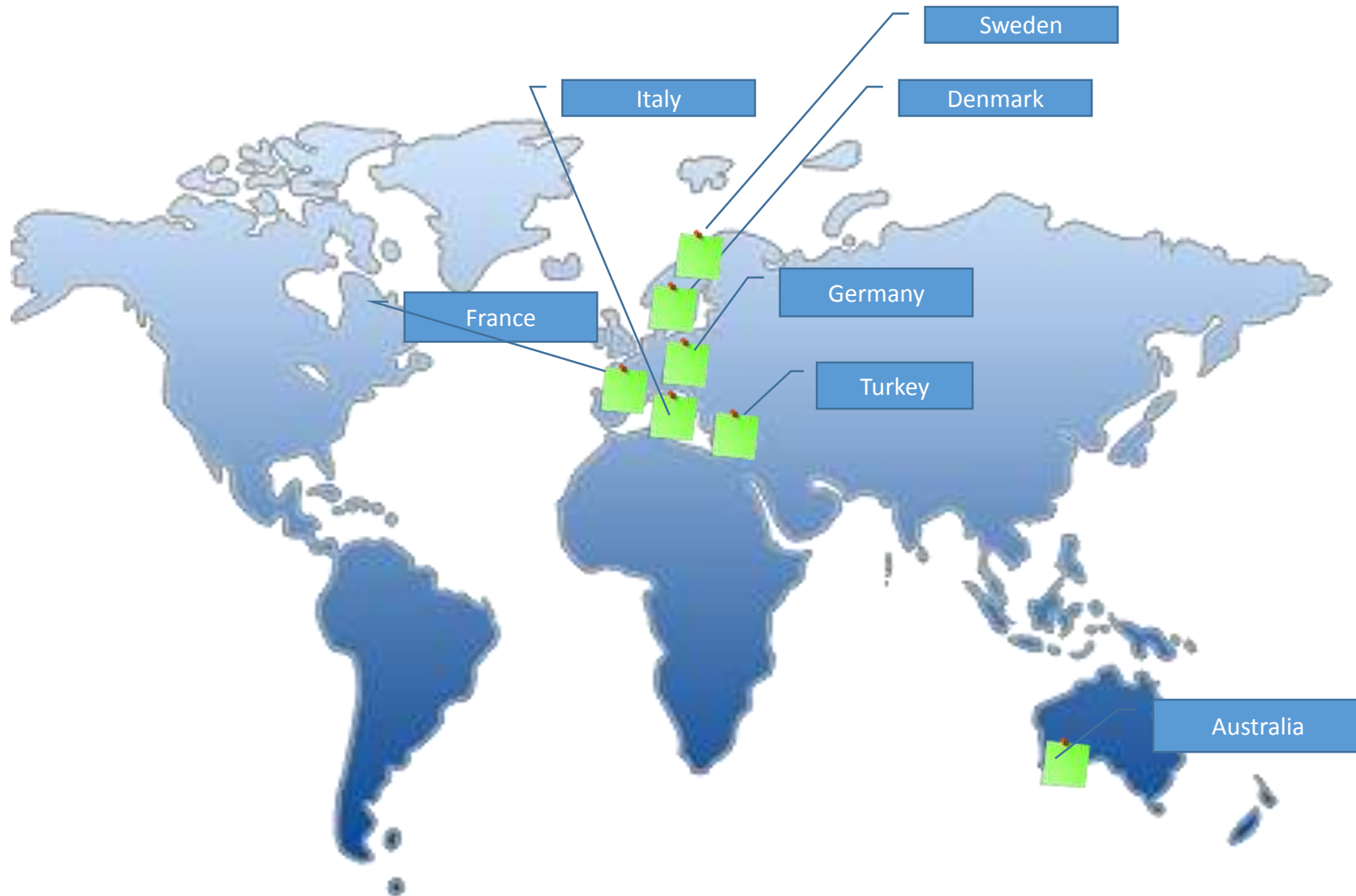
Context segmentation for autonomous navigation





Where we are

Where NT is working in the world



*NT is always ready and willing to share its expertise with partners and customers
providing its specific knowledge and technology
working in collaboration with Integrated Project Team approach*



CONTACTS

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